

—a dark spot which in 1899 was followed for several months with a mean period of  $9^h 55^m 32^s \pm$ —with a rate similar to those of some of the spots lately observed. The identifications appear to be correct.

*Spots in N. Polar shading.*—As is the case with the spots in the S. Polar shading, a good deal of difficulty attends the observation of markings on this part of the disc. The positions are not very accordant, and the result given in the table cannot be regarded as having much weight.

### (3) *Satellite Phenomena.*

Only three phenomena of special interest were observed, viz. occultations of the first satellite by the second on three consecutive Saturdays. The following are the details of the observations:—

1908 March 14.

1st contact  $8^h 41^m$ .

Quite round  $8^h 42^m.7$  to  $8^h 44^m$ .

Last contact  $8^h 45^m.3$ .

Definition bad, so times were somewhat uncertain, but no doubt about the completeness of the occultation. Power used 298.

1908 March 21.

In contact when first noticed at  $10^h 50^m.5$ .

Quite round  $10^h 52^m$ .

Elongated  $10^h 53^m$ .

Last contact  $10^h 55^m$ .

Definition bad. Power 298.

1908 March 28.

1st contact  $12^h 0^m$ .

Quite round from  $12^h 3^m$  to  $12^h 4^m.5$ .

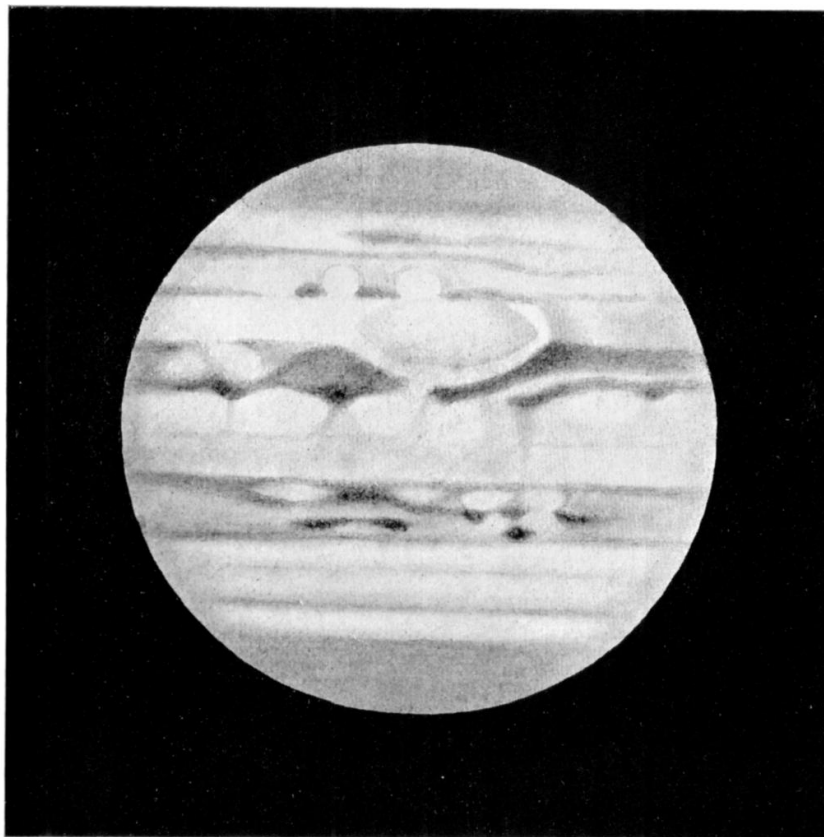
Last contact  $12^h 7^m$ .

Planet getting low, and definition very bad. Impossible to get anything like a sharp image, and could not use a higher power than 232. Times of contact probably erroneous owing to bad seeing.

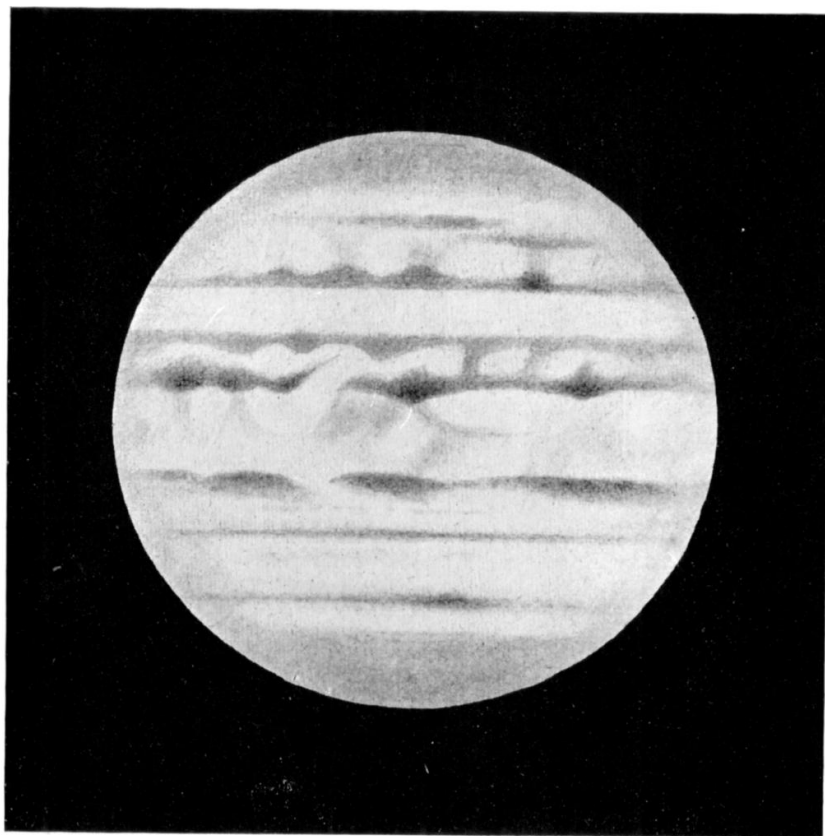
### *Miscellaneous Notes.*

On 1908 Feb. 10, between  $6^h 25^m$  and  $16^h 35^m$ , I observed for the first time rather more than a complete rotation of the planet. The f. "shoulder" of the Red Spot bay was seen in transit across the central meridian twice, and altogether about ninety transits of various markings were secured, and sundry other notes and drawings made. Definition, however, which had been good at first, became very bad towards the close of the observations.

On Feb. 27, Jupiter occulted a star, which is probably B.D. +  $19^\circ$ , 2044, mag. 9.4. When observations were begun at about



1908 Jan. 11.  
 $\lambda = 50^\circ \pm$  System I.:  $17^\circ \pm$  System II.



1908 Feb. 27.  
 $\lambda = 302^\circ \pm$  System I.:  $270^\circ \pm$  System II.

DRAWINGS OF JUPITER.—REV. T. E. R. PHILLIPS.

6<sup>h</sup> 30<sup>m</sup> the star was some two or three diameters of the planet distant. By the time occultation approached the air was very clear, but definition had gone to pieces, and Jupiter's limb was boiling badly.

At 14<sup>h</sup> 20<sup>m</sup> the star had become exceedingly faint and could scarcely be held steadily, owing to the planet's glare and the atmospheric tremors.

At 14<sup>h</sup> 21<sup>m</sup> 15<sup>s</sup> it was last seen with certainty, when it was separated from the limb by a distance equal to about half that between the S. edge of the S. Equatorial Belt and the S. Temperate Belt.

I thought I glimpsed the star again at 14<sup>h</sup> 22<sup>m</sup> 30<sup>s</sup>, but this was very uncertain. I considered the probable time of occultation 14<sup>h</sup> 27<sup>m</sup> ±, and the point of disappearance the S. Tropical Zone, and near the N. edge of the S. Temperate Belt.

Somewhat curiously, unless my memory is at fault, this is the first time I have observed the occultation of a star by a planet.

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*Note on the appearance of Saturn's Rings, 1908 October.*

*(Communicated by the Astronomer Royal.)*

In consequence of an announcement from Geneva Observatory received on October 10, that a new dusky ring had been discovered outside the white rings of Saturn, the ring system has been examined with the 28-inch refractor. The following are the observational notes.

*October 10.*—Mr. Bowyer observed from 10<sup>h</sup> 30<sup>m</sup> to 11<sup>h</sup> 50<sup>m</sup> G.M.T. with powers 450 and 550. Definition fairly good; bright moonlight. The ring, all round, appeared to be dusky on the outer edge. This dusiness was also noticeable on the following limb of the planet.

Mr. Lewis observed from 11<sup>h</sup> 45<sup>m</sup> to 11<sup>h</sup> 55<sup>m</sup> G.M.T. The crape ring was then very plain, and Cassini's division well marked. Enceladus and Tethys were very distinct, close to the rings. He remarks: "Two features seem different from what I remember of Saturn in 1895.

"1. The north preceding edge of the outer ring had a hazy border.

"2. The north following edge is fairly sharp and dark,—the impression being that it is the thickness of the ring one is looking at.

"The south edge, preceding and following, is quite normal. The varying effects may possibly be due to the bright moonlight.